

PROGRESS
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MEDICAL SCIENCE

MEDICINE

UNDER THE CHARGE OF

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A Test of Gastric Motility.—I. BOAS (*Deutsch. med. Woch.*, 1912, xxxviii, 455), reviews briefly the methods of measuring gastric motility. No very satisfactory clinical method exists. He finds, however, that the results of Moritz, who showed that the human stomach is nearly empty one-half to three-fourths of an hour after drinking 500 c.c. of water, are substantially correct. There is ample experimental evidence to show that in dogs similar conditions exist. Boas utilizes this fact as the basis of his test; (1) because water which is drunk does not stimulate the secretion of gastric juice, at least, to any appreciable extent, and causes no pylorus reflex; (2) fluid which remains in the stomach is easily recovered; (3) the procedure is not complicated by layer-formation or sedimentation; (4) since relatively large quantities pass the pylorus in a short time, the determination of motility can be made within a half hour, even in pathological cases. With pure water there is one objection; it is impossible to be certain that all fluid remaining in the stomach has been completely removed. For this reason the addition of a dye is desirable. Boas selected chlorophyll. It is well adapted to the purpose, since it is absorbed neither from the stomach nor the intestines. The technique adopted is the following: The test is always performed on a fasting stomach. If the organ is not empty, it should be washed until the water comes away clear. The patient is then given 400 c.c. of water to which 20 drops of chlorophyll (concentrated aqueous solution) have been added. Thirty minutes after the patient has drunk this, the stomach tube is passed. With normal motility about 50 to 60 c.c. are recovered. To determine whether all of the residual water has

been obtained, more fluid is poured through the tube. For this purpose a 1 per cent. solution of soda is employed. If X represents the residue recovered, then $400 - X$ c.c. of soda solution are poured through the tube and siphoned off. The quantity of chlorophyll in the wash water is then determined colorimetrically as follows: Prepare a stock solution of chlorophyll 1 to 400 and make dilutions of this of 0.5, 0.3, 0.2, 0.1 and 0.05. (The stock solution 1 to 400 corresponds to that which the patient drank). The wash water is filtered and the color intensity compared with the solutions prepared as above. If it is found, for example, that the green of the wash water corresponds with the chlorophyll solution 0.2, this means that 0.8 chlorophyll has passed through the pylorus in thirty minutes, or, expressed in percentage, 80 per cent. The patient should be instructed not to swallow saliva during the test, as it interferes with the quantitative determination of the chlorophyll. As the test solution is green and patients occasionally object to drinking it, Boas places it in green glasses. Boas has made observations on about one hundred and fifty patients with gastric disease and describes the results found in various conditions.

Ehrlich's Aldehyde Reaction in Circulatory Diseases.—A. JONASS (*Wien. klin. Woch.*, 1912, xxv, 375) has investigated the relationship between competence of the right heart and Ehrlich's aldehyde reaction. He finds that when there is insufficiency with consequent chronic passive congestion of the liver, the aldehyde reaction is positive. The positive reaction is, therefore, in a way indicative of the work done by the right heart in such cases. The reaction also becomes positive in asthma during the attacks, disappearing in the intervals.

Experimental Eosinophilia after Intraperitoneal Injection of Protein and the Relation of Eosinophilia to Anaphylaxis.—H. SCHLECHT (*Archiv f. exp. Path. u. Pharmacol.*, 1912, lxvii, 136), has investigated the eosinophilia seen in experiments with animals after injections with foreign protein and following anaphylactic shock. He finds that continued parenteral administration of foreign protein produces an eosinophilia in the blood of guinea-pigs and also in the peritoneal cavity. Cleavage products of proteins (as far as peptones) have the same effect, but amino-acids seem to be inert. Occasionally an increase of mast cells is seen. The eosinophilia is seen after a certain incubation period, during which eosinophile cells may be discovered to be in diminished quantity. The main source of the cells is the bone marrow; local production in the tissues may occur, but could not be established. Animals which have survived the anaphylactic shock react with a marked eosinophilia. Immune animals and those in an anti-anaphylactic state exhibit a further increase of the eosinophilia following renewed injection of the foreign protein. Eosinophilia is a favorable prognostic sign, both in experiment and in practice, in connection with anaphylaxis, since it is the expression on the part of the body of a reaction against toxic substances—a protective reaction. In this sense the post-infectious eosinophilia may also be interpreted. Schlecht points out the similarities between the conditions observed in anaphylactic experiments and in bronchial asthma, in both of which blood eosinophilia and local pulmonary eosinophilia are observed.